

REMARKS

Claims 1-4, 6, and 9-22 are pending in this application. In view of the following remarks, reexamination and reconsideration of this application are respectfully requested.

Initially, Applicants thank the Examiner for indicating claims 11-20 allowed over the prior art of record.

On pages 2-4 of the Office Action, claims 1-4, 6, 9, 10, and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takigawa et al. (“Takigawa,” U.S. 5,844,309) in view of Hotta et al. (“Hotta,” U.S. 6,023,096); and claim 21¹ was rejected under 35 U.S.C. §103(a) as being unpatentable over Takigawa and Hotta in view of Otsuki et al. (“Otsuki,” U.S. 4,301,464). These rejections are respectfully traversed for following reasons.

Claim 1 requires a semiconductor device comprising: a semiconductor element having a first surface with an external connection terminal; a second surface opposite the first surface; and a plate that has a rigidity higher than that of the semiconductor element. Further, the plate is recited as facing the second surface, and the second surface is adhered to the plate via a resin binder which allows the semiconductor element to deform in a thickness direction. The second surface comprises a surface-finished surface so as to be free from having a damaged layer. Additionally, the semiconductor element has thickness in the range of 10μm (micrometers) and 150μm. It is respectfully submitted that Takigawa, Hotta, Otsuki, and the other references of record fail to disclose or suggest the above-identified features of claim 1 and, therefore, claim 1 is clearly patentable over the references of record.

In item 2 of the Office Action, the Examiner stated:

Takigawa et al discloses...a semiconductor element that has a first surface on which an external connection terminal (Figure 2, reference 26) is formed and a second surface opposite the first surface (Figure 2, reference 16); a plate that faces the second surface (Figure 2, reference 30); and a resin binder that adheres the second surface and the plate, wherein the plate has a rigidity

¹designated “claim 23” in the Office Action.

higher than that of the semiconductor element (Figure 2, reference 42); wherein the second surface of the semiconductor element comprises a surface-finished surface such that the second surface of the semiconductor element is free from having a damaged layer thereon (Figure 2, reference 16),...and wherein...the resin binder allows the semiconductor element to deform in a thickness direction thereof (Figure 2, reference 42).

However, contrary to the Examiner's assertion, the plate (30) of Takigawa faces the first surface of the semiconductor element, and the resin binder (42) adheres the first surface and the plate. That is, as clearly illustrated in Figure 2 of Takigawa, plate 30 faces and is adhered to the surface having the external connection terminal (26), which corresponds to the first surface of claim 1. Takigawa does not disclose or suggest a plate facing and adhered to the opposing second surface, as specifically required by claim 1. Furthermore, there is no indication in Takigawa that the plate has a rigidity greater than that of the semiconductor element, that the second surface comprises a surface-finished surface, or that the resin binder allows the semiconductor element to deform in a thickness direction, as required by claim 1.

The Examiner cited the Hotta reference for disclosing a semiconductor having a thickness of 1 μ m or more and 150 μ m or less. However, the cited portion of Hotta describes a semiconductor element that is 6mm x 6mm (See Col. 6, lines 42-46). In this regard, Applicants note that 6mm (millimeters) is equivalent to 6000 μ m (micrometers), which is well outside of thickness range (between 10 μ m and 150 μ m) specified in claim 1. Therefore, it is believed apparent that Hotta fails to disclose or suggest a semiconductor element having the thickness required by claim 1. Further, Hotta clearly does not disclose or suggest the aforementioned features of claim 1 which are lacking from Takigawa.

In view of the above, it is believed apparent that the proposed combination of Takigawa and Hotta does not disclose or suggest each and every feature of claim 1 and, therefore, cannot be said to render claim 1 obvious. Furthermore, there is no disclosure or suggestion in Otsuki or the other references of record that would have motivated a person of ordinary skill in the art to have combined or modified the references of record in such a manner as to result in, or otherwise render obvious the

present invention of claim 1. Accordingly, it is respectfully submitted that claim 1, as well as claims 2-4, 6, 9, 10, 21, and 22 which depend therefrom, are clearly patentable over the references of record.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If after reviewing this Request for Reconsideration, the Examiner believes that there are any remaining issues which must be resolved before this application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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